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Perspectives of Thai educators toward 21st century instruction

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ABSTRACT

The rapidly changed in our society and education may influence to nature of learning and learning behaviors in young new generation. The 21st century learning is requiring educators to prepare our children by quality of learning and teaching. Teachers are key change agent to help learners live and learn with new learning environments. The study aimed to explore perspective of Thai educators toward 21st century learning and teaching by surveying method. The study investigated 41,991 educators who have responsibility or concerns in teaching and learning. Data were collected through online questionnaire and then analyzed by statistical package in terms of frequency and percentage. Finding revealed that 21st century learning and teaching in classroom should be conducted in appropriate ways, but a few misunderstand in support system and learning environment were reported. Educators should be discussed and prepared both teachers and learners to modern classroom.

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1. INTRODUCTION

The global society is constantly evolving as a result of social, political, health and environmental, and economical changes. In early 2020, every country faced the same problem, the threat of the COVID-19 epidemic (Corona Virus Disease 2019) has forced many, many societies and many countries to change their way of life and society. However, education is a key success indexing, children have to be cultivated a legitimate consciousness about learning in the changing world. The learning process must be organized in accordance with disruptive era and 21st century situations. The essence of curriculum and teaching remains, but patterns and methods may be tailored to a changing learning environment [1], [2]. Education has a key role to change the future and make our world with sustainability, children can grow with beautiful mind, create the new normal society, and build society for all [3]. The goal of education leads learners to integrate holistic development. When people are well educated and have the support of many parties, it will change in the way that society expectation. Good education management emphasizes the learner's learning and empowerment. Have self-understanding and coexist in a democratic society in a normal way [4]-[6]. It is a lifelong learning that is not limited to educational institutions or as required by society. The learning environments tend to be borderless classroom or out of school activities. Learners can learn anytime, anywhere, any content which they prefer to understand and apply for daily living. Therefore, teachers play an important role in providing instruction, so that they can participate in activities based on each person's aptitude and interests. Support and encourage learning resources as well as technology up to date. In addition, interspersed with morality and ethics will help to determine the participants' desired attributes [7]. Teachers must have a fundamental belief that all learners have the ability to learn and develop themselves, encourage learners to be good people, they must encourage them to be good people, have morality, ethics, and know to lead themselves in the pursuit of knowledge continuously. Education aims to develop holistic learners and maximize the benefits of them.

Learners can learn true only if they think, act, and present what they learn through the natural educational process and respond to differences between individuals [8], [9]. The adjustment of both beliefs, methods of thinking and practices is consistent with the changing dynamics of the world society [10]. Rothstein and Jacobsen [11] concluded that learners must have basic academic skills, ability to think critically and solve problems, computer and internet use for learning, social skills and working, effective communication, and social responsibility. Learners can learn and develop themselves, they are of the utmost importance in highlighting the importance of knowledge, virtue, learning processes and integration. The 21st century learning makes different form of learning environments than the past because something has a real impact on the practices that people in society are normally familiar with and anticipated in advance. It is very important in creating a framework of ideas. Therefore, education does not limit the pattern of the way of learning, but the essence is that the principle of complete humanity. Modern living is more comfortable. There are a wide range of learning and access resources. Online learning can access knowledge from anywhere, anytime [12], [13]. Which is becoming an intellectual trap because people are so addicted to themes that neglect the essence of learning. This new way of life to learn must take it into account how to think. This transition will require many human adaptations. Education management in this era is the transitional age that focuses on the development that comes from changing ideas. Behaviors, personalities vary from person to level in modern society. All human beings can live in a normal society, knowing the changes that have occurred through the ages [14], and so education as a tool for economic development. Therefore, education management must be adapted to keep up with the changes of the nation and the world society at all times. Education must be encouraged to encourage acquaintances to seek knowledge on their own and stay awake to learn. This requires an effective education management strategy. Develop educators to create the attributes they need in the globalization [15]-[17].

All learners have the ability to learn and develop themselves by the best. Appropriately learning should focuses on their authentic potential. Learners can learn with two important elements: the external elements and the built-in elements. External elements are learning from the perception of the surrounding environment, including knowledge from individuals, families, communities, information, news, and resources that are systematically provided [18], [19]. The inner element is learning that is caused by feeling spontaneously or mentally. Learners take the external elements in which they receive to think in a systematic and appropriate way. Learning management must emphasize the importance of knowledge, virtue, learning processes, and integration. The new era of learning seems to be dynamic and unpredictable change. The aftermath of economic, social, scientific and technological development has resulted in a new culture to society, including a learning curve that transforms from a teacher-centered or focused subject material primarily to a process or focus on a learner-centric. Learning is open to both themes and methods. As a result, modern instructors act as designers and organize learning activities to meet their needs [20], [21]. Learners in the 21st century want to learn by engaging in their discovering [22], [23]. The skills needed to live and learn in the 21st century includes:

a) Learning and innovation skills are skills that will lead learners to success in their lives and careers. Learning good and proper, not just memorizing in subject content. However, there is a self-knowledge process that is self-guided learning. Self-directed learners know how to change information around them and bring knowledge or experience to innovation. Learners must analyze, synthesize and make decisions. To bring useful information to the benefits of existing information, good courses need to be flexible in the structure, content, duration, and design of courses that respond to the lives of modern people.
b) Information, media, and technology skills are the learning skills of the next generation who need to learn and use information technology to be suitable. Information technology can connect people from the other hemisphere to another. This creates unlimited learning. It's not limited to places, but it's important to keep in mind the virtues and ethics of using social media and good manners in communication, digital learning performance. Therefore, the teaching must cultivate and incubate ideas, think critically, make decisions, to pay attention, and to know how to use information creatively.
c) Life and career skills; this learning skill is another important skill to help learners understand humanity. The freedom to work and career will be greater to modern learning styles. Work from home focuses on compact but efficient work. By adopting various technologies to suit focus on proactive and creative work. Know to pursue a career based on your aptitude and interests. The value of diploma is reduced, but learners will focus on learning to improve life and specific work skills. Therefore, the curriculum and teaching must be modernized and in accordance with the learning nature of the 21st century learners.

Learners should develop themselves and learn throughout their lives. The learning environment in this era is different and varied, can be selected as appropriate and possible opportunities. Creating a friendly classroom environment and challenging learning for learners are required to all classroom. The learning environment encourages learners to feel like asking questions, researching, and pondering, looking for new ways to create work and innovation. This study aimed to explore perspectives of Thai educators toward 21st century learning and teaching in science. Findings will help educators to have conceptualization and strategies to promote how science classroom should be and should have in school science.

2. RESEARCH METHOD

The study explored perspectives of Thai educators toward 21st century learning and teaching. The participants were volunteering and join the program of 21st century learning and teaching in science. A survey allowed respondents to give perspective through online questionnaires. The questionnaires were validated by 3 experts and then revised to suitable items. Data were collected from 41,991 educators who have responsibility or concerns in teaching and learning. They asked the 21st century learning and teaching through online questionnaires; Google Form are manipulated and generated for data collection. Data were collected and analyzed by statistical package to the level of their perception in terms of frequency and percentage. Researcher checked the completeness of the data and then obtained data from responses to the information of results. Data were generated to figure and point the frequency with percentage of respondents.

3. RESULTS AND DISCUSSION

The percentage of Thai educators toward 21st century learning and teaching seem to be concurrently explored. They know and understand that classroom activities is now call for adapting. Learning behaviors are now changing and tend to be technology-enhanced learning. Technology open their windows opportunities to access of what data and information as they wanted [24], [25]. They are ready to participate with borderless learning, key elements to change learning behaviors and preferences in this century. Learners concern 4Cs, 4Rs, and 4Hs to live and learn, it can be explained 4Cs consisted of communication, collaboration, critical thinking, and creativity; 4Rs consisted of reading, writing, arithmetic, and research; 4Hs consisted of head, heart, hands, and health as displayed in Figure 1. They agree that 4Cs and 4Rs, learners should have and should learn more than 64%. However, other skills should be done, but it is varied and differenced.

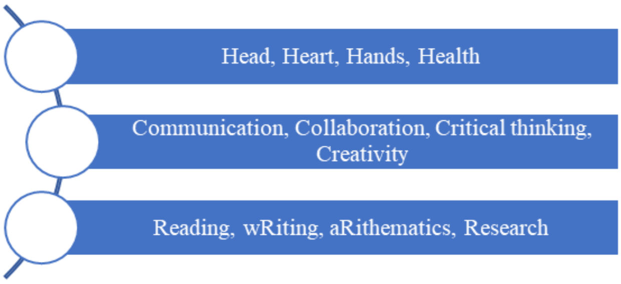
Head, Heart, Hands, Health
Communication, Collaboration, Critical thinking, Creativity
Reading, wRiting, aRithematics, Research

Figure 1. 4Hs4Cs4Rs for 21st century learning and teaching

The content-based learning or recitation tend to be less important for modern classroom, they can access and learn new experiences through multimedia and variety of tools. Some contents or theoretical lesson may be not useful for their school hours [24]. However, learning skills that they have to do and learn for creating innovations. Career and life skills, ICT and media literacy, and innovative learning are vital skills of learning. That is not surprisingly explored because new generations were produced and learned in their age of life. Teachers have to learn in what learners needs, lesson should make them interest and engage contemporary contents or necessary learning skills. Learning activity focused on process than those recitation is raised for modern classroom. Curriculum and instruction help them to meet self-efficacy, meet the requirements of meaningful learning, adapt knowledge and understanding to create innovation, and take responsibilities to society. Educators understood that less important necessary learning skills should be content-based learning (67.7%). That is, social skills and other human skills should implement in 21st century classroom as shown in Figure 2.

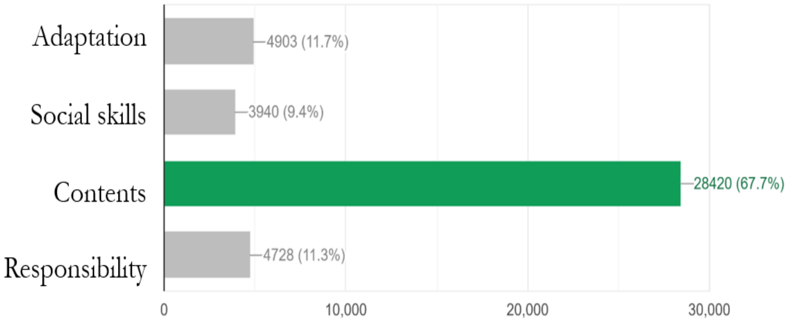

Figure 2. Less important necessary learning skills

The goal of 21st century learning, especially curriculum for new generation purposes to develop process of learning and necessary learning, less content-based learning, think and do as they preferred, learn through work-based learning, and work-integrated learning. Finding revealed that educators perceived 21st century learning and teaching in appropriate ways, but they had a few misunderstand in support system and learning environment. That is, educators have to adapt perspective to learning environment. Teachers are key factors to let learners in 21st century learning. They have understanding curriculum, instruction, teaching strategies, teaching methods, standards and assessment, also lesson learned from their school practices. As shown in Figure 3, educators should be discussed and prepared both teachers and learners to modern classroom as well as learning environments are fluctuated. Learners should have creative problem solving (47.2%), but most educators express their perspective that freely assignments let learners' success in their learning (48.5%).

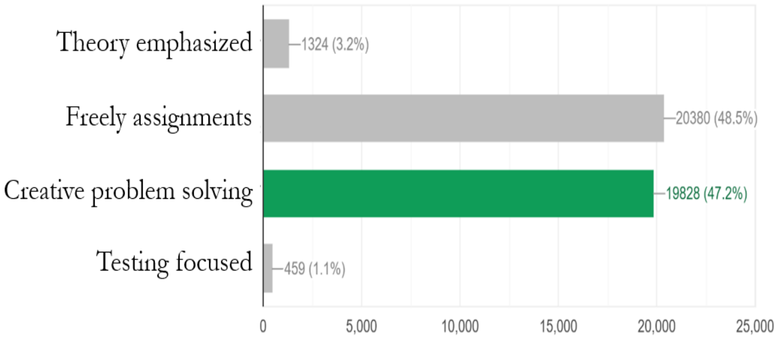

Figure 3. Learning environments

Educators may be misunderstand about concept about learner-centered-approach, freely assignments is suitable for some learners, but it is not enable to some group of learners. The environment and support system in which they have to know and live in the changing society based on contexts. Educators should have to create ideas and innovation, solve the problem, learn from doing, learn from technology-enhanced practices, and learn to live others by empathy. It can be discussed that learning behavior have influencing from multi-factors or different learning environment. Technology shape their learning preferences and transmitted knowledge as widely public [26]-[28]. They can know in what they want to know in easily ways. However, necessary skills should be implemented in every classroom i.e. higher-ordered thinking, information literacy, ICT-enhanced working, and social responsibility [29]-[31]. Curriculum and learning management seem to be designed for new paradigms. In- and out- classroom activities should be promoted by variety of methods, teachers are learning facilitators and coaches.

4. CONCLUSION

The study aimed to explore perspective of Thai educators toward 21st century learning and teaching. The survey method was employed by investigating 41,991 educators who have responsibility or concerns in teaching and learning. Data were collected and analyzed by statistical package in terms of frequency and percentage. Finding revealed that they perceived 21st century learning and teaching in appropriate ways, but they had a few misunderstand in support system and learning environment. Educators should be discussed and prepared both teachers and learners to modern classroom.

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